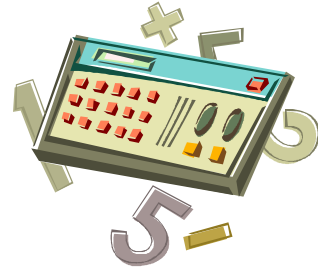


Algebra/Geometry Institute Summer 2004

Lesson Plan Two



Faculty Name: Sandra Kay Wilson
School: East Side High School
City: Cleveland
Grade Level: 9th

- 1 Teaching objective(s)
The student will write inequalities to describe a set of data.

2 Instructional Activities

Bell Ringer: Write the meaning of the following.

- | | | | |
|-----------|------------|--------------------|---------------------|
| 1. $<$ | 4. \geq | 7. at least | 10. no less than |
| 2. \leq | 5. \neq | 8. no fewer than | 11. no larger than |
| 3. $>$ | 6. at most | 9. no greater than | 12. no smaller than |

*After going over answers to the bell ringer, assign students the following to work on at their seats. After students are finished, allow them to write answers on the board or overhead(optional).

Define a variable and write an inequality to model each situation.

1. A bus can seat 48 students or fewer.
2. There are over 20 species of crocodiles.
3. In many states you must be at least 16 years old to obtain a driver's license.
4. At least 200 students attended the dance Saturday night.
5. You may not use a light bulb of more than 60 watts in this light fixture.
6. The Navy's flying team, the Blue Angels, makes no fewer than 75 appearances each year.

*Make sure students can write inequalities regardless of placement of the variable and can write a simple compound inequality.

1. $34 > n$ also can be written as _____.
2. $-17 < n$ can also be written as _____.
3. $5 > 2$ and $5 < 7$ written as a compound inequality is _____.
4. 9 is between 4 and 12 written as a compound inequality is _____.
5. $-16 > -14$ and $-16 < 12$ written as a compound inequality is _____.

Activity 1: “I Spy”

Allow students to form groups of fours.

Procedure 1: Students are to write at least three inequalities about something they see in the classroom. They are to also write a description of that inequality.

Procedure 2: Groups will call out their inequalities and give the description or you can allow them to call out the inequality and allow other groups to guess the situation the inequality describes. This can be done in the fashion of “I Spy!”

** The items for which an inequality is written about must be visible to the whole class.

**Example: $0 \leq n \leq 1$: a possible description could be the number of teachers present in the classroom.

Activity 2: An Inequality Story

Procedure 1: Pass out handout containing story to students(Group students if you'd like.

Procedure 2: Have students read the story and write at least 10 inequalities for situations described in the story.

Procedure 3: Have student share their inequalities and the descriptions with with the class.

An Inequality Story

Karen’s club took a field trip to Liberty Land. Upon arriving at the entrance, Karen’s sponsors purchased tickets for the group. There were 63 students in the group. Each ticket cost \$15.00.

Upon entering the park, Karen immediately rushed to the water slide where she saw no fewer than 75 people standing in line. After getting her turn on the slide, she rushed to the Sea Dragon Ride. The ride could hold up to 50 people at a time. Karen’s wait was not long. Elevated to a height of more than 30 feet above the ground, Karen screamed, shouted, and laughed as the ride was swinging back and forward.

Leaving the Sea Dragon, she went to the bumper car area. Each car seated just one

person and no more than a total of thirteen people could drive at a time. The sign beside the ride noted that a person had to be at least 36 inches tall to drive a car.

Karen spotted the carousel, but decided to get something to eat first. One booth sold sodas for 0.75, cotton candy for \$2, popcorn for \$1 a box, pickles for \$1, hot dogs for \$2 and nachos for \$2.25.

At another booth funnel cakes cost \$2.50. While hamburgers for \$3, fries for \$2, sodas for \$1, chips for 0.75, and candy apples for \$1.25 were sold at yet another booth. Karen bought a hamburger, fries, and a soda. She decided to come back later and buy 3 bags of cotton candy, 3 candy apples, and 3 funnel cakes. On the trip home, she would share with friends.

After eating and resting for a little over half an hour, she ran over to the Zip-n-Pip. She became nauseous when the ride soared to heights more 25 feet above the ground, promising then never to ride that ride again.

From there she went boating. Only one person could sit in a boat. There were only 6 boats available. Having only minutes to ride, Karen tried to do as many turns as she could as fast as she could. The ride lasted a little under 10 minutes.

It was time to go the park was now closing. Karen hurriedly walked to the exit and found her party. All in all, it had been a very fun-filled day.

3 Materials and Resources

Chalkboard or Overhead
Prentice Hall Textbook
Story
Calculator(optional)
Classroom Objects

4 Assessment

Teacher observation
Oral responses from students
Homework Assignment: Have student to write a paragraph or two
that contains at least three inequalities

Quiz (following day):

Write inequalities for the following:

1. The measure on a number n is greater than the number of inches in a foot
2. There are at most 5 pencils on the desk.
3. 25 is greater than the number n
4. The number n is between -8 and 16
5. Write a situation that would describe the inequality $n > 2$.

